

operation the reflections from the stationary bead are observed through a low power microscope or binocular magnifying 25 to 50 diameters. The various phenomena described by Galibourg-Ryziger are shown equally well by this method. The preparation of beads of different sizes to fit different holes is a matter of only a few minutes.

This method has the advantage over the first two methods in that it may be used to distinguish between normal pearls and cultivated pearls with a pearl center.

In any case, test by all three methods should be applied, the one to serve as a check on the other. These tests are not time-consuming and in most instances lead to definite results.

4. *Test in ultraviolet light.* Recently C. S. Fox (Journ. Indian Industries and Labor, 1³: 235; Chemical News, 125, 67-68. 1922) has found that in ultraviolet light both natural and cultivated pearls fluoresce, with the difference, however, that the Persian Gulf pearls are opaque to ultraviolet light whereas Japanese pearls, both natural and cultivated, have a translucent opalescence. He considers that because the cultivated pearl has a nucleus which comprises from 0.5 to 0.9 of the total volume of the pearl and which is of inferior material (mother-of-pearl) whereas a natural pearl is made up of concentric layers of pearly substance from center to periphery, the cultivated pearl is an inferior article and is not to be considered in the class with natural pearls. In view of the difficulty in distinguishing cultivated pearls from natural pearls, he proposes that all Japanese pearls, both natural and cultivated, which show a translucent opalescence in ultraviolet light, shall be considered of inferior quality. The writer has repeated the test of Fox with the new fluorescent microscope of the Bausch and Lomb Optical Company and has noted that the translucent opalescence described by Fox is not so clearly and distinctly shown that uncertainty may not arise regarding the kind of pearl under test, whether Indian or Japanese. It would seem unwise to adopt this suggestion because pearls may at some future time be cultivated in the waters of the Persian Gulf and then the rule would fail to accomplish the desired result, and produce confusion worse than ever.

BOTANY.—*A new genus of senecioid composites.* P. A. RYDBERG, New York Botanical Garden. (Communicated by PAUL C. STANDLEY.)

The genus *Clappia*, named after Dr. A. Clapp of New Albany, Indiana, was described by Dr. Gray in the Botany of the Mexican Boundary Survey. Dr. Gray placed the genus in the tribe Helenieae,

but thought that it might be referred to the subtribe Tagetinae. In the Synoptical Flora he transferred it to the subtribe Jaumieae, and was followed by Hoffman in Engler and Prantl's *Natürlichen Pflanzenfamilien*. When I prepared the manuscript of that subtribe for the North American Flora I was not so well acquainted with the variations displayed in the subtribe Tagetinae, and let it remain in the position given by Gray and Hoffman, though I felt that it was out of place. The bracts of the involucre are striate by black ducts which evidently are to be regarded as elongated resin glands. Such black markings, though very short, are found also on the leaves, especially the reduced upper ones. It is now evident to me that the genus should be transferred to the tribe Tageteae. The other genera of Jaumeanae lack this resinous striation as well as the fimbriellae on the receptacle.

The type of the genus, collected by Berlandier at Laredo, Texas, is rather unsatisfactory, being mostly out of flower, but Hooker illustrated it in his *Icones* (*pl. 1105*) from better material. The plant was reported by Gray as collected by Havard along the Pecos River and it was found by Rose at Brownsville in 1913 (*no. 18096*). The latter specimens show the characters of the genus very well.

Clappia suaedaefolia was also reported by Wooton and Standley in their Flora of New Mexico,¹ but the specimens on which this record was based do not belong to it and I suspect that it may be the case with Havard's specimens mentioned above. If Wooton and Standley's material is compared with type of *Clappia* or with Rose's specimens of the same, it is evident that the resemblance is only superficial and consists only in the same general habit, and that the former does not even belong to the genus *Clappia*. I was inclined to refer the specimens to the genus *Senecio*, but Dr. Greenman, who knows that genus much better than myself, was not willing to include them and I therefore propose the following new genus.

***Pseudoclappia* Rydberg, gen. nov.**

Shrubs with glabrous, straw-colored or white branches. Leaves linear, subterete, fleshy, alternate or subopposite. Heads radiate, solitary, peduncled, terminating the branches. Involucre turbinate, without caliculus; bracts about 9, linear, somewhat fleshy, in 2 subequal series. Receptacle naked, alveolate. Ray-flowers 4 or 5, the ligules linear-oblong, 5-7-nerved. Disk flowers about 15, the tube narrow, shorter than and grading into the narrowly somewhat funnelform throat, the 5 lobes short, deltoid. Anthers with deltoid tips. Style-branches subulate-filiform, minutely hairy. Achenes prismatic, 5-ribbed, hispidulous. Pappus of numerous stiff bristles.

¹ *Contr. U. S. Nat. Herb.* 19: 719. 1915.

Pseudoclappia arenaria Rydberg, sp. nov.

Clappia suacdaefolia Woot. & Standl. Contr. U. S. Nat. Herb. 19:719. 1915.
Not *C. suacdaefolia* A. Gray. 1859.

A low shrub; leaves linear, 1-3.5 cm. long, 1-2 mm. thick; peduncles 2-4 cm. long, with a few scalelike subulate small leaves; involucre bracts glabrous, linear, acute, 8-10 mm. long; ligules yellow, 6-8 mm. long, 2-2.5 mm. wide; disk-corollas about 1 cm. long; achenes blackish, prismatic, 3 mm. long, 1 mm. thick.

NEW MEXICO: White Sands, Otero County, July 20, 1901, *Wooton* (type; U. S. Nat. Herb. no. 739956); Aug. 31, 1904, *Wooton 2618*; June 21, 1895, *Wooton*. White Sands, Dona Ana County, July 19, 1897, *Wooton 483*. South Spring, May 2-4, 1903, *Griffiths 4243* (U. S. Nat. Herb. no. 496288, in part).

The plant can not be included in *Clappia* since it lacks the resinous striation of the bracts and the fimbriae on the receptacle, and the bristles of the pappus are neither flattened nor paleaceous at the base. It can not be included in *Senecio* since the involucre is without caliculum and its bracts of a different texture, the pappus-bristles are stiffer than is usual in that genus, and the style-branches are distinctly Vernonioid, neither truncate nor with a hair-pencil at the end. The genus should, however, be referred to the tribe Senecioneae, subtribe Senecionanae, notwithstanding the Vernonioid style. A more or less vernonioid style is found also in the genera *Gynura*, *Emilia*, and *Psacalium*.

BOTANY.—*Calderonia* and *Exandra*, two new genera of the family Rubiaceae. By PAUL C. STANDLEY, U. S. NATIONAL MUSEUM.¹

During a botanical collecting trip to the Republic of Salvador in 1921-22 the writer obtained imperfect material of two trees of the family Rubiaceae, both of which prove to represent undescribed genera. Both of them had been obtained by earlier collectors, and specimens existed in the National Herbarium, but the early material was too incomplete for satisfactory identification and has remained undetermined until now.

Of the two genera here described the more interesting and better defined is *Calderonia*, of which a complete series of specimens, showing both flowers and fruit from the same tree, has been collected by Dr. Salvador Calderón, of the Chemical Laboratories of the Salvadorean Department of Agriculture. Dr. Calderón is an enthusiastic student of botany and entomology, and has presented to the National Museum an unusually interesting collection of Salvadorean plants, beautifully prepared and consisting of over 1500 specimens, which are of exceptional value because of the vernacular names and full notes upon economic applications which accompany them.

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